

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

APPLICANT: ERNST B. RIEMANN, ET AL.

TITLE: LAN TELEPHONE SYSTEM

SERIAL NO.: 10/679,689

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GROUP: ART UNIT 2665

EXAMINER: NGUYEN, TOAN D.

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To: Hon. Commissioner of Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**A M E N D M E N T**

S I R:

In response to office action dated June 1, 2006, please amend the above-identified application as follows.

## **IN THE SPECIFICATION:**

Page 5, line 30 through page 6, line 9, amend the paragraph thereof as follows:

-- The system includes software that uses this unique voice-enabled LAN to implement a distributed PBX that controls the initiation and termination of telephone calls between telephone handsets attached to client PC's to telephone hubs, and via outside trunk connections to the PSTN. This PBX differs from previous implementations in that a standard ATM LAN has been used to replace the usual backplane connection between trunk and station line interfaces, and that voice transmissions are carried over the ~~same~~ same set of wires as LAN data. Conventional PBX signaling between trunk and station, or station and station, has been translated into network messages that convey information relating to real-time telephony events on the network, or instructions to the network adapters to generate the appropriate signals and behavior to support normal voice communication, or instructions to connect voice media streams using standard ATM connection and signaling protocols. --.

**IN THE CLAIMS:**

**Claims 1-22 (Cancelled).**

**CLAIM 23 (PREVIOUSLY PRESENTED).** A module for interfacing between a telephony network and a computer data network comprising:

a first connection coupled to said telephony network and adapted to receive telephony signals therefrom and output telephony signals thereto;

a second connection coupled to said computer data network and adapted to receive data packets therefrom and output data packets thereto;

a digital signal processor coupled to receive signals from said first connection and output signals thereto, wherein said digital signal processor detects events in said signals received from said first connection, wherein said events comprise at least one of caller ID, DTMF, call progress, and other forms of telephony signaling, and further wherein said digital signal processor provides outputs indicative of said detected events;

a synchronous-to-asynchronous converter that receives signals from said first connection and provides an asynchronous output therefrom; and

a control processor that receives said outputs from said digital signal processor indicative of detected events, and wherein said control processor outputs control messages over said data network to a call manager program installed on said data network, wherein said control messages are indicative of said events detected by said digital signal processor, and further wherein said control processor is also coupled to said synchronous-to-asynchronous converter for outputting

asynchronous media streams over said data network via said second connection.

**CLAIM 24 (PREVIOUSLY PRESENTED).** The invention according claim 23, wherein said digital signal processor generates and receives multiple data streams.

**CLAIM 25 (PREVIOUSLY PRESENTED).** The invention according to claim 23, wherein said network is an ATM network.

**CLAIM 26 (PREVIOUSLY PRESENTED).** The invention according to claim 23, wherein said network is an ethernet network.

**CLAIM 27(PREVIOUSLY PRESENTED).** The invention according to claim 26, wherein said network is a cells in frames ethernet network.

**CLAIM 28(PREVIOUSLY PRESENTED).** The invention according to claim 23, wherein said network is an internet protocol over ATM network.

**CLAIM 29(PREVIOUSLY PRESENTED).** The invention according to claim 23, wherein said network is an internet protocol over an ethernet network.

**CLAIM 30(PREVIOUSLY PRESENTED).** The invention according to claim 23, wherein said computer data network also carries computer data traffic.

**CLAIM 31(CANCELLED).**

**CLAIM 32 (CURRENTLY AMENDED).** The invention according to claim 23, wherein ~~converting between synchronous and asynchronous data comprises a said~~ synchronous-to-asynchronous converter ~~using~~ uses first-in-first-out buffering.

**CLAIM 33 (PREVIOUSLY PRESENTED ).** In a computer data computer network for transmitting data the improvement comprising:

a plurality of telephone means;

an external interface means for coupling said computer data computer network to at least one outside line of a public switched telephone network (PSTN), wherein said external interface means translates telephony transmissions from the PSTN to data for transmission over said computer data computer network;

software means for said computer data computer network, said software means comprising first means for performing the functions of a private branch exchange (PBX) for said plurality of telephone means that are connected to the computer data computer network;

said software means comprising second means for receiving requests for service over said computer data computer network for any of said plurality of telephones means;

said software means comprising third means for establishing bi-directional media streams over said computer data computer network between any two of said telephone means upon receiving a request over said computer data computer network for calling one of said plurality of telephone means from another of said plurality of telephone means; and

said software means comprising fourth means for establishing bi-directional media streams over said computer data computer network between any one of said plurality of telephone means and said interface to said PSTN upon receiving a request over said computer data computer network for an outside line for said one of said plurality of telephone means.

**CLAIM 34 (PREVIOUSLY PRESENTED) .** In a computer data computer network for transmitting data, the improvement comprising:

a plurality of telephone means;

an external interface means for coupling said computer data computer network to at least one outside trunk line of a public switched telephone network (PSTN), wherein said external interface means translates telephony data from the PSTN to data for transmission over said computer data computer network;

software means for said computer data computer network, said software means comprising first means for performing the functions of a private branch exchange (PBX) for said plurality of telephone means that are connected to the computer data computer network;

said software means comprising second means for receiving requests for service over said computer data computer network for any of said plurality of telephones means;

said software means comprising third means for establishing bi-directional media streams over said computer data computer network between any one of said plurality of telephone means and said interface to said PSTN upon receiving a request over said computer data computer network for an outside line for said one of said plurality of telephone means.

**CLAIM 35 (PREVIOUSLY PRESENTED )** . In a computer data network for transmitting data, the improvement comprising:

a plurality of telephone means;

software means for said computer data network, said software means comprising first means for performing the functions of a private branch exchange (PBX) for said plurality of telephone means that are connected to the computer data network;

said software means comprising second means for receiving requests for service over said computer data network for any of said plurality of telephones means;

said software means comprising third means for establishing bi-directional media streams over said computer data network between any two of said telephone means upon receiving a request over said computer data network for calling one of said plurality of telephone means from another of said plurality of telephone means.

**CLAIM 36 (PREVIOUSLY PRESENTED )** . In a computer data network for transmitting signals between nodes, the improvement comprising:

a software means performing the functions of a private branch exchange running on at least one computer operatively coupled to said computer data network;

a PSTN interface means for coupling the computer data network to a public switched telephone network;

a plurality of telephone means;

telephone interface means for coupling said plurality of telephone means to said computer data network, said telephone interface means converting analog signals into digital data for transmission over said computer data network; and

software means for controlling the signaling between said plurality of telephone means and said network, whereby said computer data network acts as a switch for connecting audio signals from any of said telephone means to a called party.

**CLAIM 37 (PREVIOUSLY PRESENTED ).** The invention according to claim 36, wherein said computer data network is one of a: asynchronous transfer mode (ATM), ethernet, or Internet Protocol (IP) network.

**CLAIM 38 (PREVIOUSLY PRESENTED).** A method of using a computer data network for switching audio signals, comprising:

- (a) coupling a plurality of telephones to the computer data network for digital data transmission over the computer data network;
- (b) using the computer data network as a PBX for switching between the plurality of telephones for making call from one telephone to another of the plurality of telephones, or between at least one of the telephones and the public switched telephone network (PSTN);
- (c) said step (b) comprising assigning priority to the audio signals from the plurality of telephones.

**CLAIM 39(PREVIOUSLY PRESENTED) .** The method according to claim 38, wherein said step (a) comprises connecting the plurality of telephones to one of a: asynchronous transfer mode (ATM) network, ethernet network, or Internet Protocol (IP) network.



## **REMARKS**

The present amendment is submitted in response to the office action dated June 1, 2006. The claims have been amended in order to overcome the rejections thereof under 35 U.S.C. 112.

Regarding the objection to claim 36, it is noted that the “telephone interface means” is different from the “PSTN interface means”, which is why the word “said” before it would not be appropriate.

The examiner has rejected claims 33-39 under 35 U.S.C. 103 as being obvious over a number of prior-art patents. One of the secondary references used by the examiner was U.S. Patent No. 6,208,639 – Murai. However, as explained in previously-filed amendment, a Declaration under 37 CFR 1.131 was filed in the parent application in which supportive proof had been submitted proving that actual reduction to practice of the invention was effected in September, 1995. Since the filing date of U.S. Patent No. 6,208,639 is after that date, it cannot serve as prior art against the claims of the instant application. It is, also, noted that the foreign priority date of August 31, 1995 of the Murai patent cannot be used to establish this patent as available prior art (see Section 2126.01 of the MPEP). It is, therefore, respectfully submitted that U.S. Patent No. 6,208,639 is not prior art against the claims of the present invention.

For the same reason as that given above with regard to U.S. Patent No. 6,208,639, the primary reference to Deng, U.S. Patent No. 5,862, 134 is also not available as prior art against the claims of the instant application, since the September, 1995 reduction-to-practice date of the instant invention precedes the December 29, 1995 filing date of the Deng patent. It is, therefore, respectfully submitted that U.S. Patent No. 5,862,134 is not prior art against the claims of the present invention.

Since all of the rejections based on prior art in the office action dated June 1, 2006 used the Deng patent as the primary reference, and since the rejection of claims 33-35, 38 and 39 used the Murai patent as a secondary reference, it is respectfully submitted that those rejections have been overcome in the light of the fact that the Deng and Murai patents are not available prior art, since the instant invention was reduced to practice prior to the filing dates of these two patents, in accordance with 37 CFR 1.131(b). .

Respectfully submitted,

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